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To the Editor

In a recent issue of this journal, Levy et al.[1] reported on resection of hepatocellular carcinoma (HCC) without preoperative tumour biopsy. The authors state that preoperative biopsy of HCC is not necessary in tumours larger than 3 cm in diameter. In their series, the false-positive rate of clinical/radiologic diagnosis was 3.1%, which is comparable to the combined rate of seeding and haemorrhage associated with tumour biopsy. They suggest that biopsy should be considered only in patients with lesions smaller than 3 cm and normal alpha-fetoprotein serum levels, because in this setting spiral CT cannot discriminate between regenerative nodules and HCC.

The report of Levy et al. recalls the important question of necessity and desirability of the percutaneous biopsy of potentially resectable liver tumours. The risk of tumor cell seeding after fine-needle biopsy aspiration was probably underestimated in early studies. Schotman et al. reviewed the literature prior to 1995 and found only 15 cases of needle track seedings reported.[2] Recently, several groups reported on evidence of needle tract seeding. In a retrospective French study[3] on 150 cirrhotic patients the rate of seeding after biopsy of HCC was 2.66%. Takamori et al.[4] observed needle tract implantation in three (5.1%) of their patients during a 4-year period, leading to major thoracic surgery in all of them. In the series of Kim et al., the frequency of tumour implantation after percutaneous biopsy of HCC was 3.4 %.[5]

Among 66 patients who underwent liver resection for HCC during the last 30 months in our institution there were 15 in whom fine needle biopsy of the tumour was performed before surgery. One patient in whom a single pass with a 1.3 mm needle was carried out presented 19 months after liver resection with tumour implantation along the needle tract that required en bloc thoracic wall resection. The patient died 8 months later in disseminated tumour stage.

Due to this experience and the data from the literature we recommend that in patients with lesions highly suspicious for HCC, tumour biopsy should not be performed in cases in which curative surgical therapy (either in terms of liver resection or transplantation) is an option. Biopsy track recurrence not only increases surgical morbidity but may also have significant impact on patient prognosis. Percutaneous HCC biopsies should be restricted to HCC in which histopathologic confirmation is necessary for nonsurgical therapy.

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Authors' Reply:

We thank Drs. Frilling and Broelsch for their comments, and are pleased to note that their experience conforms to ours. The issue of needle track seeding following a biopsy of an HCC is an important one, as this can transform a curative situation into one in which cure is not possible. We certainly agree that if curative resection is contemplated, biopsy should not be undertaken.

When the lesion in the liver is smaller than about 1 cm there may be some uncertainty as to whether the lesion is HCC or not.[1] Here, the value of biopsy is controversial. To begin with, the rate of needle track seeding may be lower that that reported in the literature for two reasons. The lesion may not be malignant, or, even if malignant, the risk of tumor seeding may be lower in these small well-differentiated lesions. There is also some difficulty in interpreting the results. Fine needle aspiration may be unable to distinguish between normal hepatocytes and well-differentiated HCC because FNA does not show the changes in architecture that are diagnostic in this setting. The accuracy of core biopsies is uncertain in small lesions, because of the difficulty of accurate needle placement. Core biopsies may also carry a higher risk of seeding.

The European Association for Study of the Liver Monothematic Conference on Hepatocellular Carcinoma recommended that lesions smaller than 1 cm not be biopsied, because of the difficulty in confirming HCC in such small lesion.[2] Lesions between 1 and 2 cm in diameter should be biopsied with both fine needle aspiration and a core biopsy for greatest diagnostic accuracy.[3] Lesions larger that 2 cm can be diagnosed by radiology alone and also do not need biopsy. One caution is that the risk of needle track seeding following two biopsies of the same lesion is unknown, and may be increased.

For these reasons we have adopted the policy of not biopsying even small lesions, but rather observing the lesions at 3-month intervals. Any lesion that enlarges is considered malignant and treated accordingly (assuming that other radiological and clinical features are appropriate). We have considered the argument that a delay in offering therapy may result in a missed opportunity for cure. To our knowledge, there is no data to show that the outcome is different if the lesion is treated when it is, for example, 1 cm in diameter versus 1.5 cm in diameter.

This policy has resulted in the low false-positive rate described in our article.[4] Resection allows the lesion to be ana-

lyzed histologically, and thus provides a reality check on our policies. We do not have this luxury in patients who have some form of local ablation, and therefore we biopsy all such patients at the time of the procedure, accepting a small risk of needle track seeding.

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To the Editor:

We read with interest the article by Dr Morrow et al.[1] in which the authors concluded that stereotactic core biopsy (SCB) was the diagnostic procedure of choice for most mammographic abnormalities, even though it did not increase the rate of clear margins in patients undergoing lumpectomy for only breast cancer, and therefore making it an extra-invasive investigation in this subgroup of patients.

Prior to the introduction of stereotactic needle biopsy for nonpalpable mammographic abnormalities in our practice, we reported[2] a malignancy yield of 48%, which is twice that reported by Marrow et al. We attributed this relatively high malignancy yield in our series to close collaboration between radiologists and surgeons and to the lower threshold for excision biopsy in the United States due to pressure from the medico-legal system. The incidence of positive microscopic margins in our series that included 151 nonpalpable breast cancers was 45%.

We have recently reviewed the histopathologic findings in 100 patients with ductal carcinoma in situ (DCIS) treated with initial local excision.[3] During this documented study period, stereotactic fine needle aspiration cytology (SFNAC) was the mainstay of preoperative diagnosis.

In cases where preoperative SFNAC was inconclusive (i.e. C1-C4), wire-guided localization biopsy was performed for definitive histological diagnosis. Our initial hypothesis was that the preoperative malignant cytology would achieve a higher rate of clear margins. In fact, our findings were consistent with those reported by Dr Morrow et al. We observed no significant association between C5 cytology and clear margins. In patients where preoperative SFNAC was malignant (C5), the rate of positive margins after wide local excision was 49% (27/55). Whereas in patients with inconclusive preoperative SFNAC (i.e. C1, C2, C3, or C4), the rate of positive margins after diagnostic biopsy was 62% (28/45). However, the difference in the positive margins rates between the two groups was not statistically significant ($P = .228$).

SCB is currently the main diagnostic modality for suspicious mammographic microcalcifications in our center. However, we agree with Marrow et al. regarding their conclusion that establishing malignant diagnosis preoperatively in patients undergoing only lumpectomy does not necessarily increase the rate of clear margins and therefore does not reduce the number of surgical procedures.

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To the Editor:

Cattral et al. have compared portal venous (20 patients) versus systemic venous (20 patients) drainage of pancreatic grafts.[1] The blood glucose values during oral glucose tolerance test were similar in the two groups. Fasting insulin levels were lower in the portal venous drainage.

Twelve years ago, we performed an experimental study[2] in diabetic rats to compare portal versus caval drainage. In portal-grafted rats glucose tolerance was strictly normalized, with a plasma insulin profile similar to that observed in normal rats. In caval-grafted rats, a delayed plasma insulin peak was observed with some abnormalities in the plasma glucose profile, with the late plasma glucose concentrations being higher than a in portal-grafted animals ($P < .01$) The extent of pancreatic fibrosis was similar in both groups. These results demonstrated a superiority of portal venous drainage compared with caval drainage.

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To the Editor:

Recently, an Australian general surgeon was prosecuted after one of his patients developed intraabdominal infection several months following laparoscopic cholecystectomy (LC). The cause of this complication was due to an unretrieved gallstone in the peritoneal cavity. The surgeon, who did not find it reasonable to convert to an open procedure to remove the "lost" stone at the time of initial operation, was found guilty of negligence and the complainant received substantial compensation.

This case has raised many concerns among surgeons. The most significant concern is the precedent that has been set. In this climate of increasing legal action, this outcome will force surgeons to modify their practice in the management of spillage of stones. This will impact the patient's outcome and satisfaction as well as adding a financial burden to the health care system and to the community.

Laparoscopic cholecystectomy has become the preferred method of treatment for cholecystolithiasis acute cholecystitis since its introduction in France by Philippe Mouret in 1987. This procedure has resulted in an increased incidence of iatrogenic gallbladder perforation that is estimated to be 8% to 36%.[1–5] Although the spillage of stones is less frequent, the true incidence of unretrieved stones during LC is difficult to determine but certainly not negligible.

Initially, retained stones in the peritoneal cavity were considered to be harmless,[6,7] but increasing number of case reports have been published regarding serious late onset of complications related to these dropped gallstones. Most reported cases concern the formation of intraabdominal abscesses or chronic abdominal wound infections.

The natural history of retained gallstones in the peritoneal cavity is not well documented and only few relevant studies looking specifically at its potential risk have been published.[3–5,7–11] In a retrospective analysis of 10,174 LCs[11] with an incidence of spilled gallstones at 5.7% (581 patients), only 1.4% (8 patients) developed a postoperative abscess formation that required reoperation. The authors of this study concluded that there is no justification whatsoever for a conversion to an open procedure only for the purpose of retrieving a lost stone. This position has been clearly approved by others, in both retrospective[5] and prospective[3,4,7] studies. Conversely, we did not find any relevant published studies that indisputably recommend performing a laparotomy for an unretrieved stone during a LC. Nevertheless, we believe that in selected cases conversion to an open procedure could be considered. For instance, a large number of spilled gallstones in the presence of bacteriobilia, as has been proposed by others.[8,9]

In conclusion, gallbladder perforation with spilled stones is a common accident during LC that can be the source of infrequent but severe complications. If stone spillage occurs, every effort should be made to retrieve them at the time of laparoscopy. Thorough irrigation of the peritoneal cavity and bacteriological examination of bile and stone should be routinely initiated and prophylactic antibiotic therapy started when a spilled stone cannot be retrieved. At the present time, there is no relevant publication to support routine conversion to laparotomy but patients should be followed closely and clearly informed to avoid legal consequence.

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